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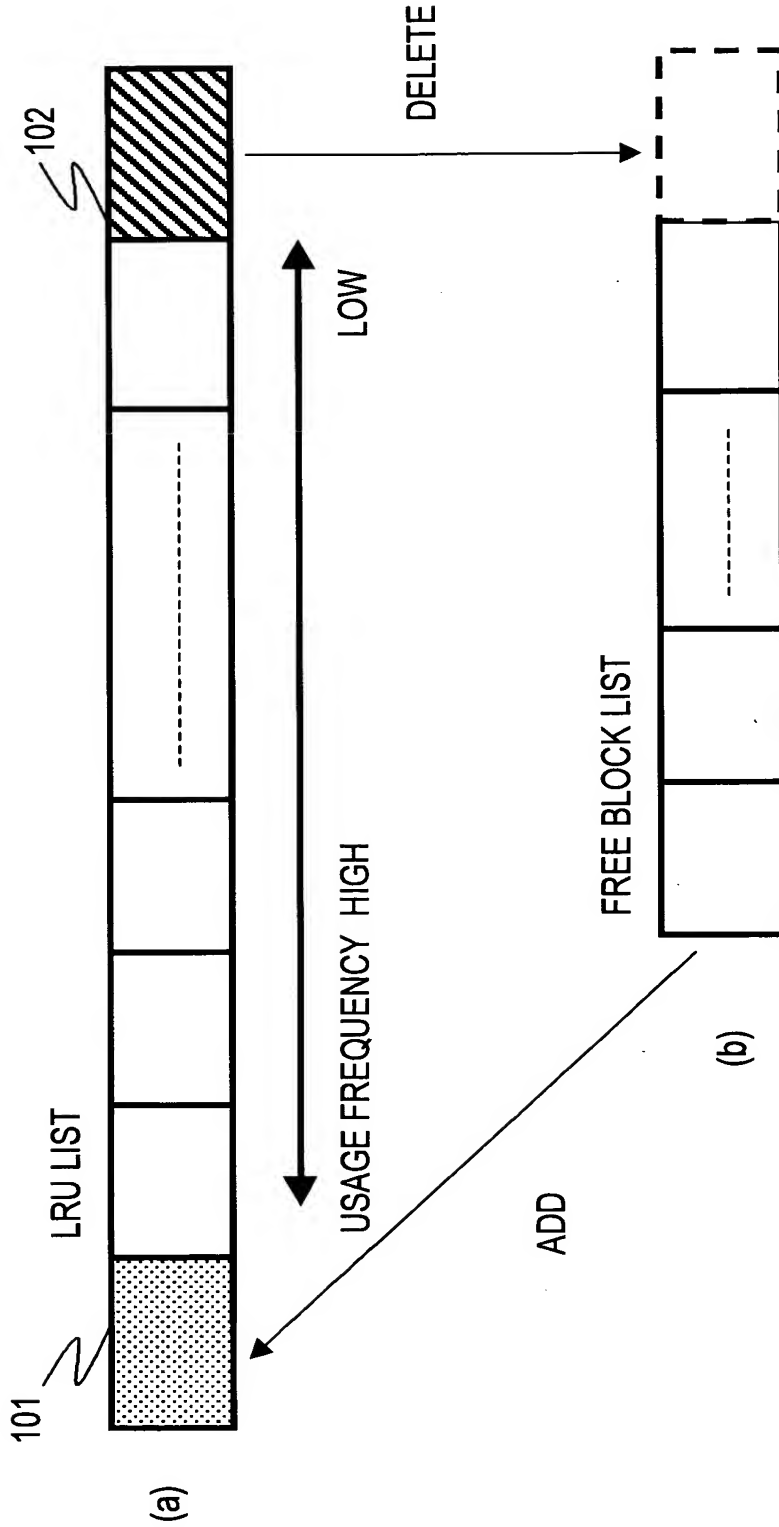


FIG. 1

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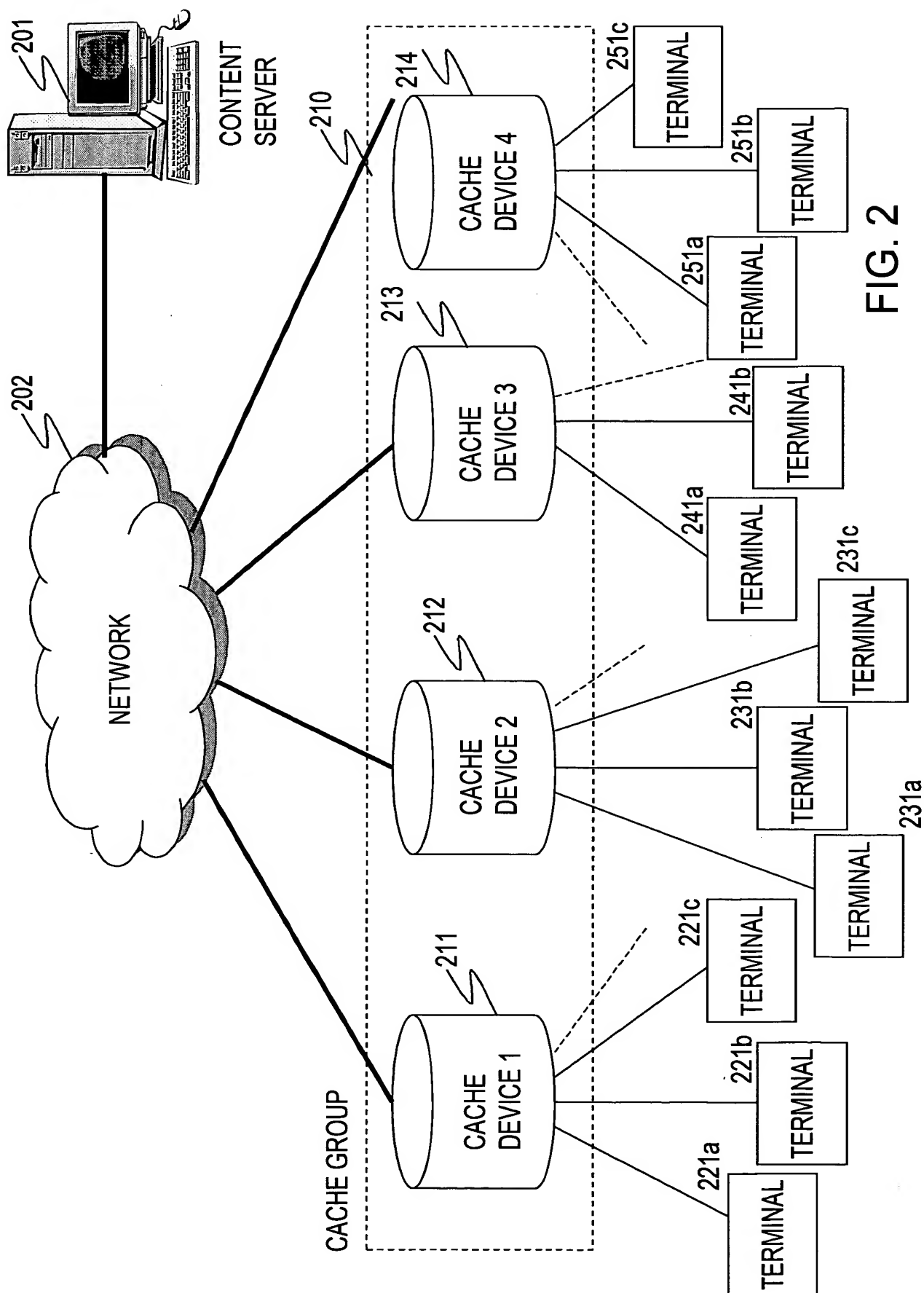


FIG. 2

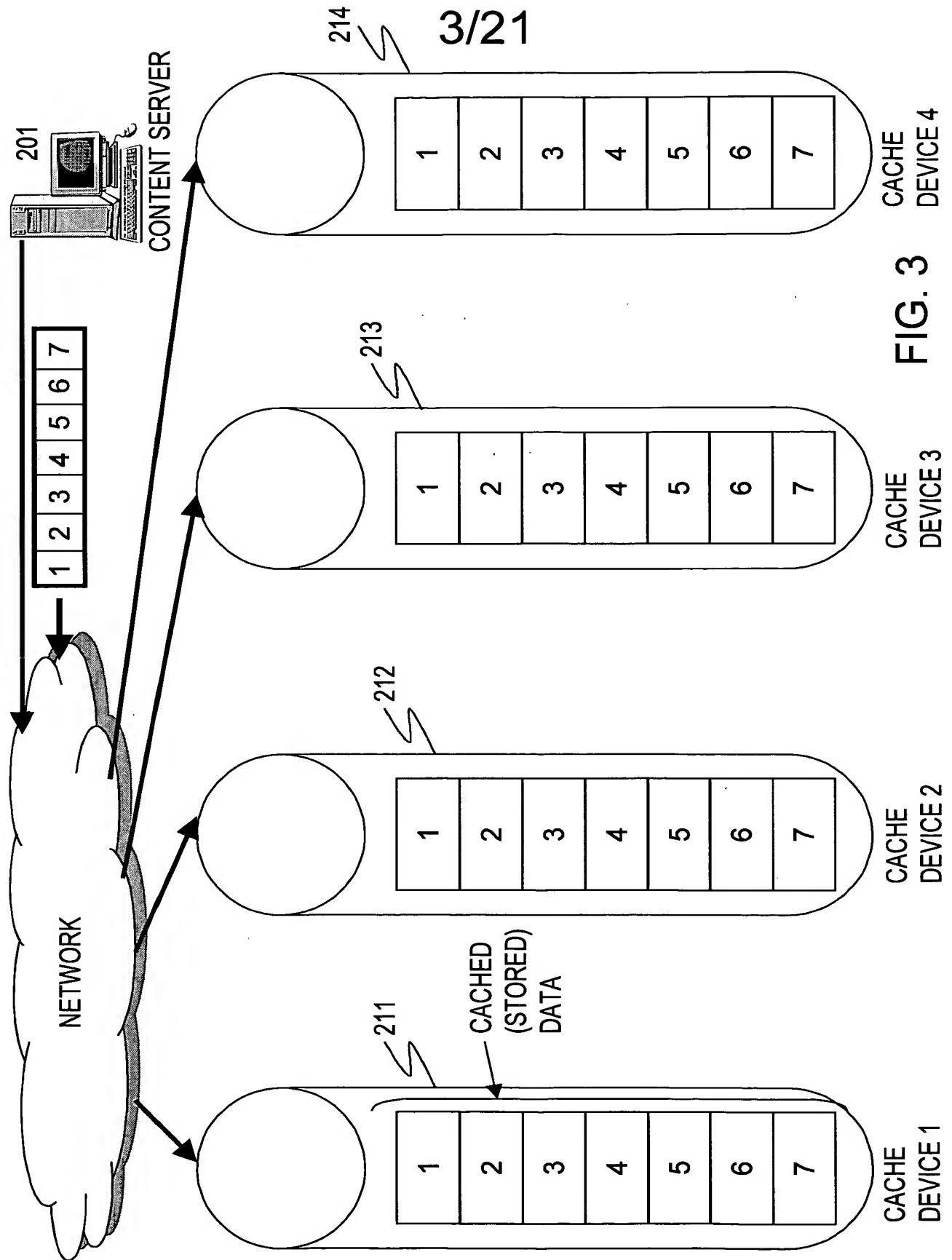


FIG. 3

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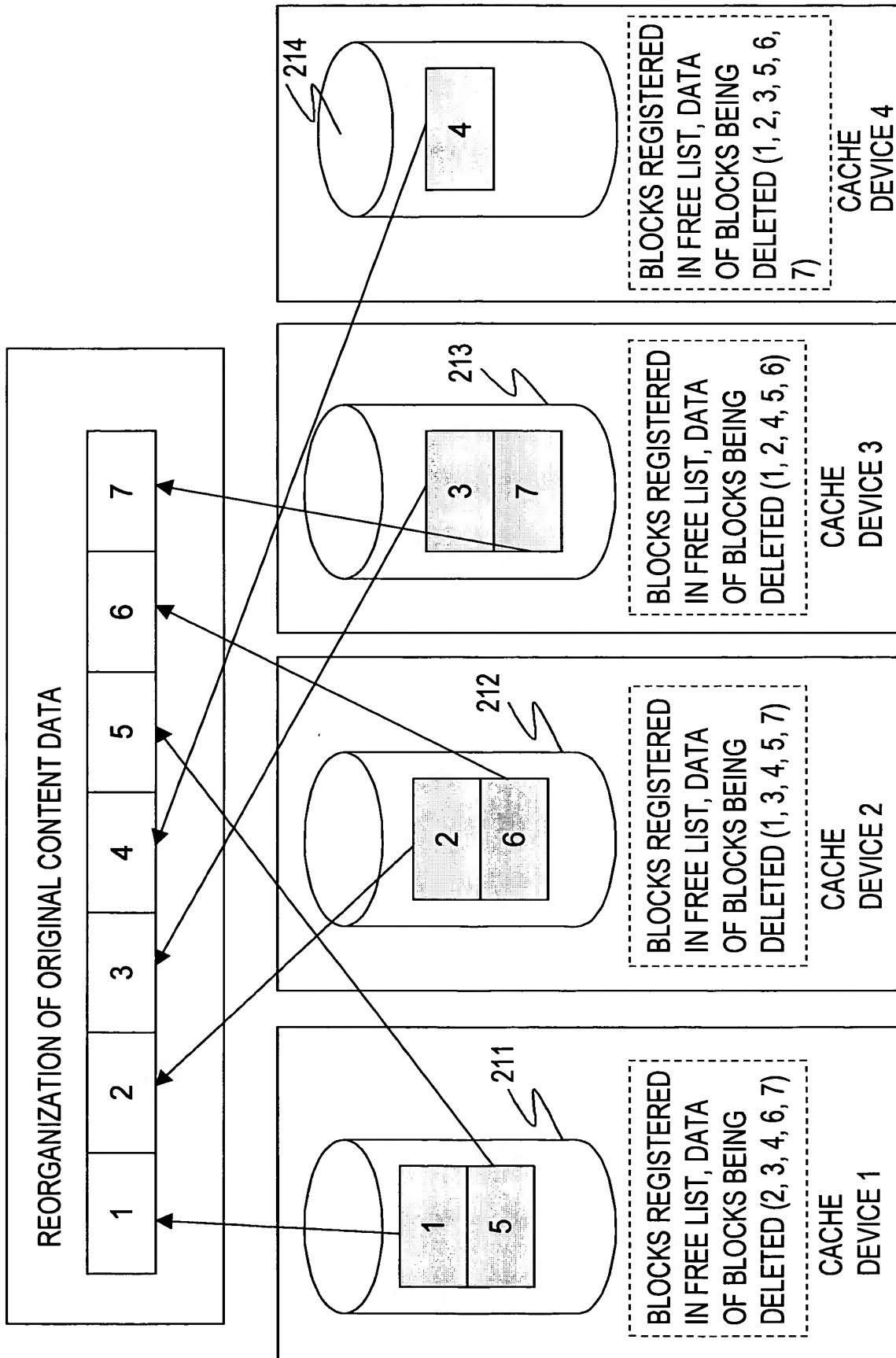


FIG. 4

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(a)

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
OPCODE					VERSION					MESSAGE LENGTH											
REQUEST NUMBER																					
OPTIONS																					
OPTION DATA																					
SENDER HOST ADDRESS																					
PAYLOAD																					

(b)

REQUEST HOST ADDRESS
NULL-TERMINATED URL

FIG. 5

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HOST NAME	IP ADDRESS	ICP PORT NUMBER
cache1.home1.com cache2.home2.com cache3.home3.com	xx.yy.zz.a1 xx.yy.zz.a2 xx.yy.zz.a3	3130 3130 3130

FIG. 6

0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
REQUEST HOST ADDRESS																					
NULL-TERMINATED CONTENT IDENTIFIER																					
NUMBER OF MEMBER (N)										MEMBER NUMBER (m)					GROUP ID						
CACHE MEMBER #1 IP ADDRESS																					
CACHE MEMBER #2 IP ADDRESS																					
CACHE MEMBER #3 IP ADDRESS																					
CACHE MEMBER #4 IP ADDRESS																					
-----																					
CACHE MEMBER #N IP ADDRESS																					

FIG. 7

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TARGET CONTENT DATA IDENTIFIER	NUMBER OF GROUP MEMBERS (N)	GROUP ID	GROUP MEMBER LIST	
			MEMBER NUMBER (m)	IP ADDRESS
12345678	4	231	1	xx.yy.zz.a1
			2	xx.yy.zz.a2
			3	xx.yy.zz.a3
			4	xx.yy.zz.a4
34567890	3	232	1	xx.yy.zz.b1
			2	xx.yy.zz.b2
			3	xx.yy.zz.b3
...	...	...	...	...

FIG. 8



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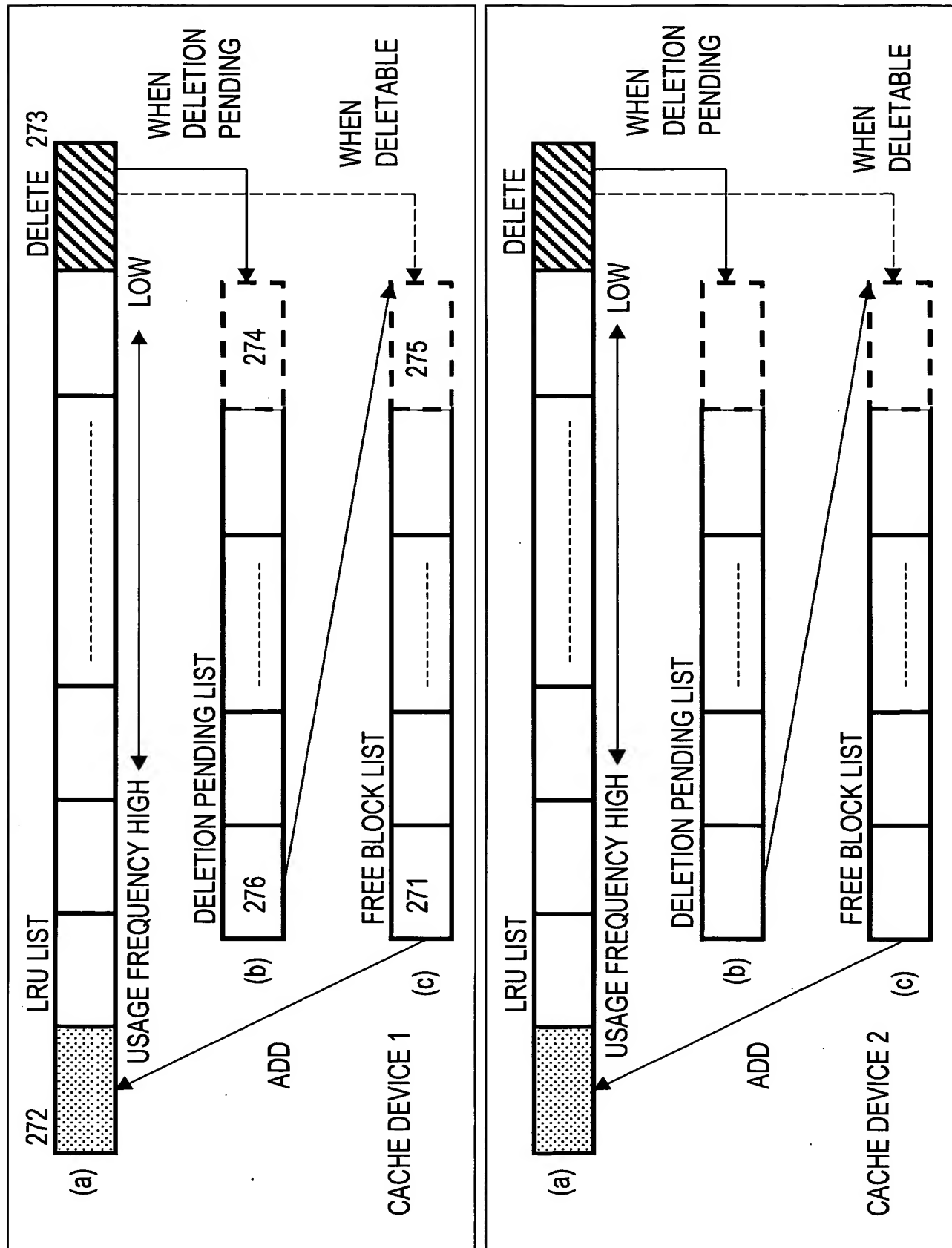


FIG. 9

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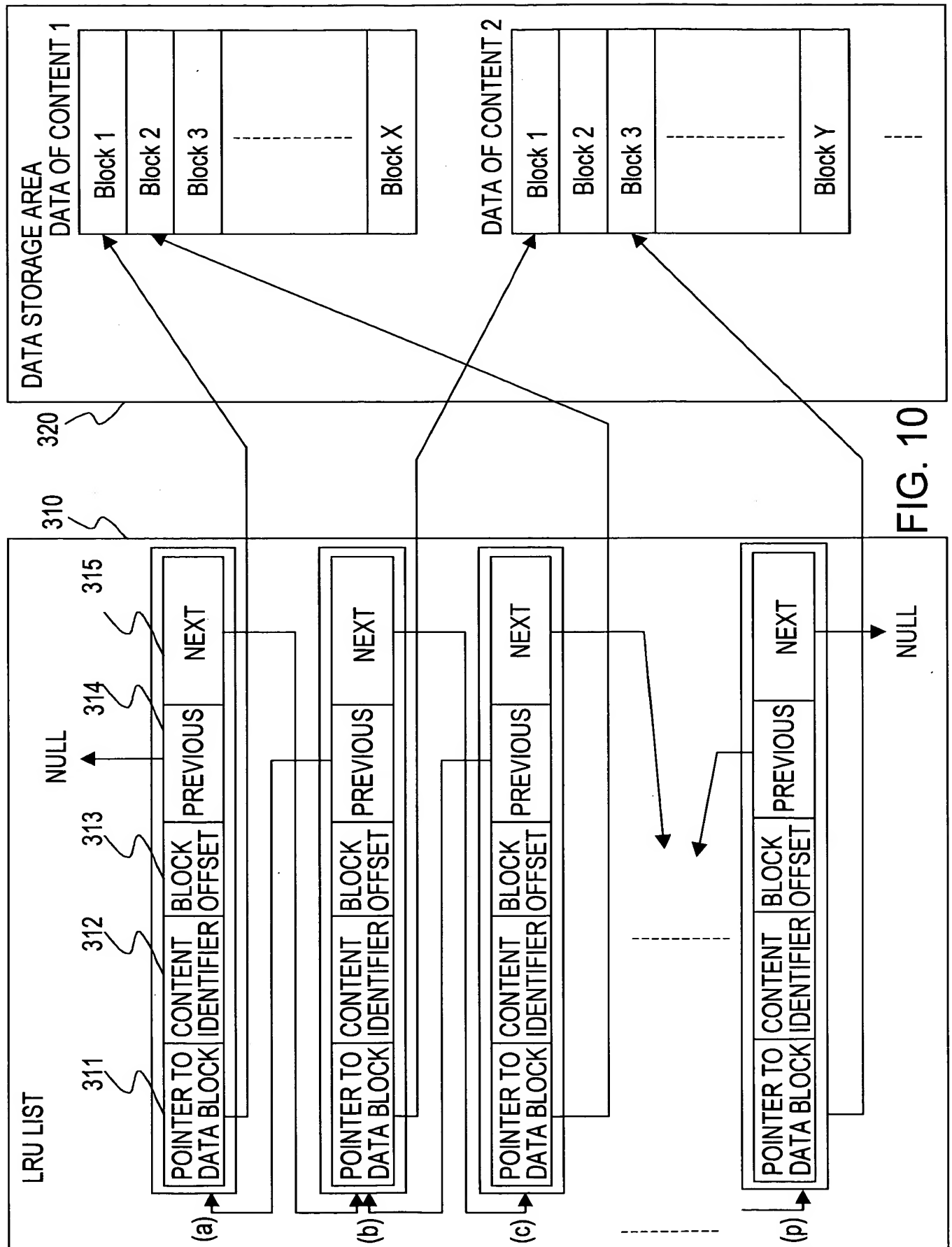


FIG. 10

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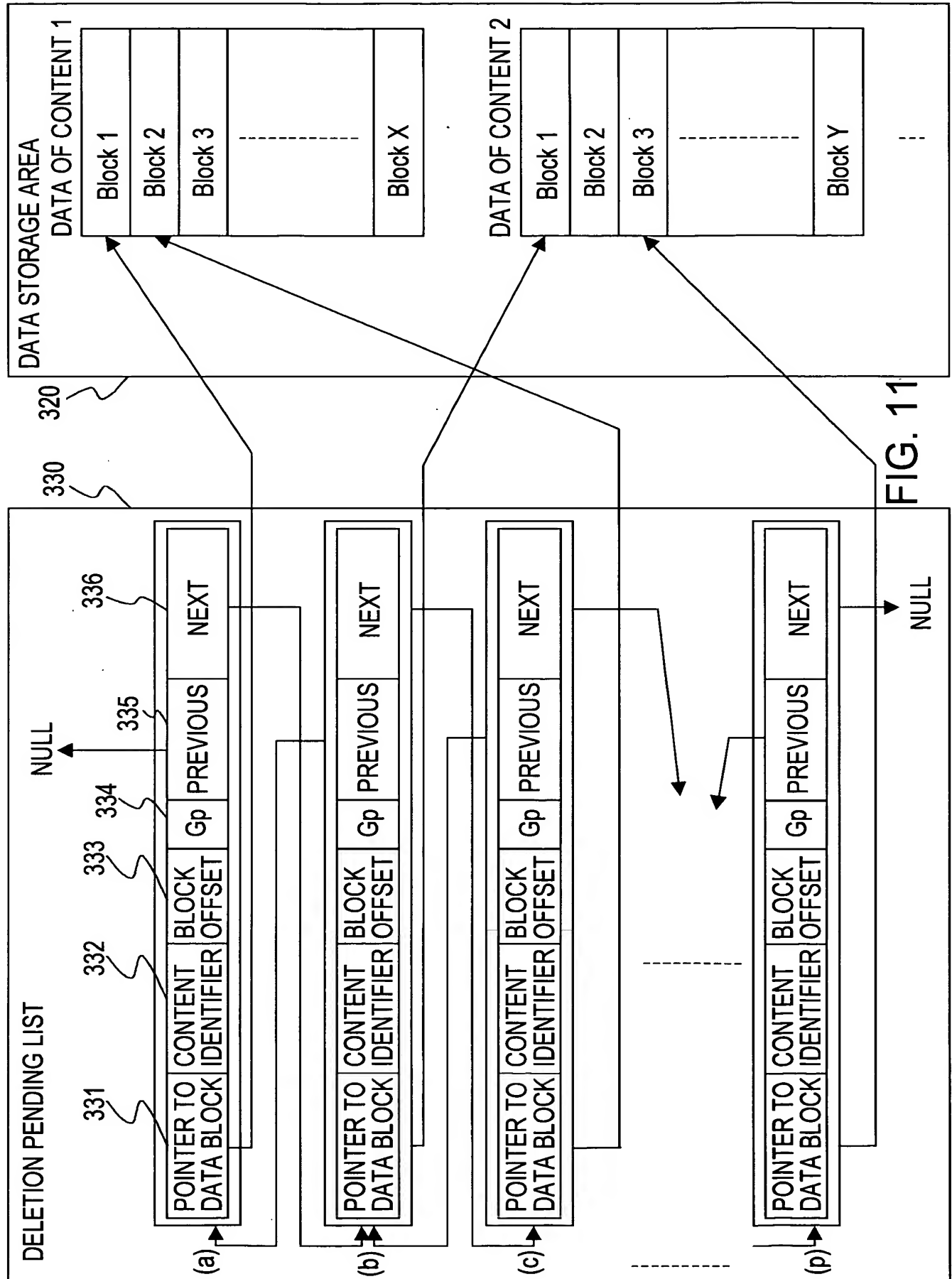


FIG. 11

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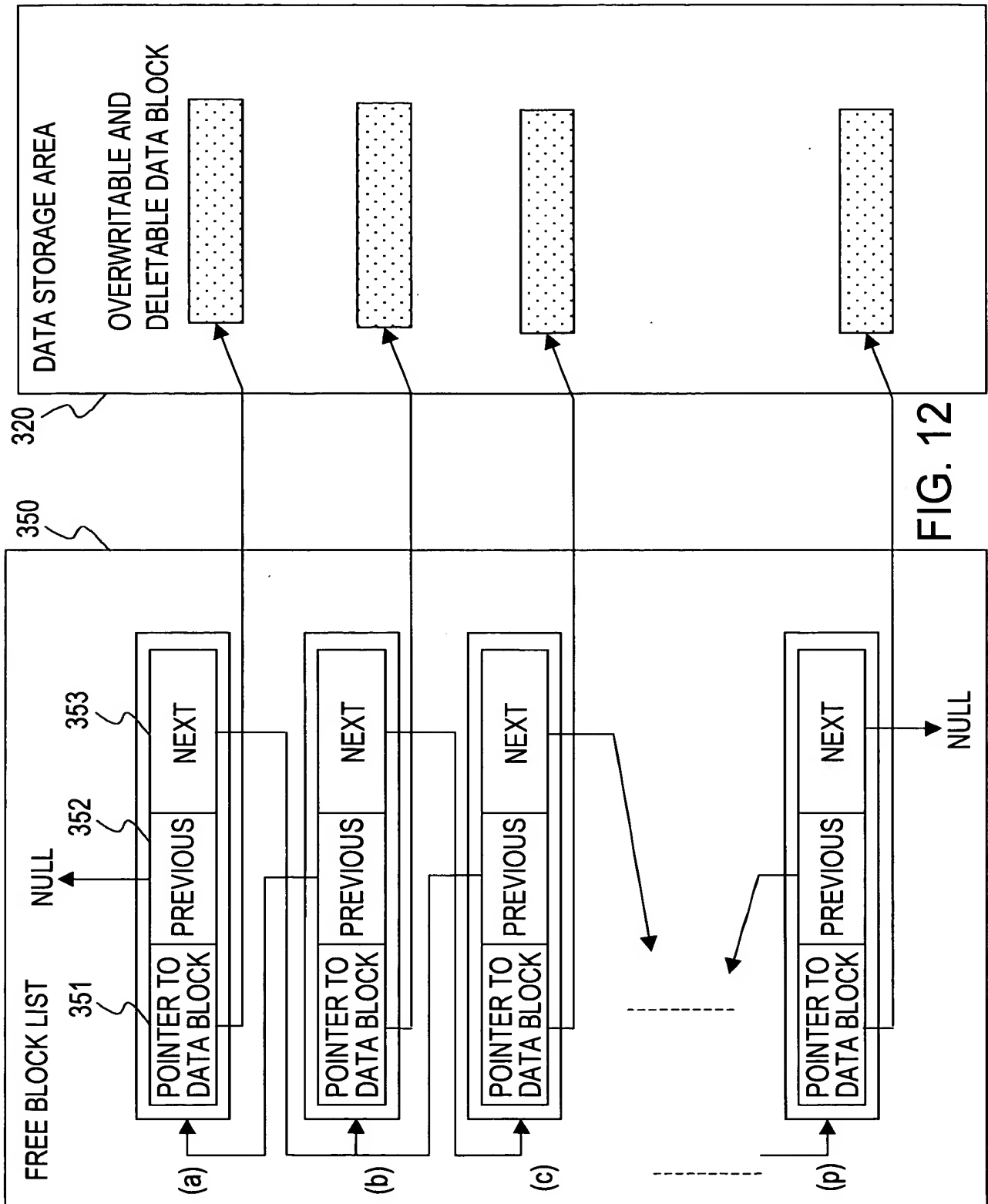
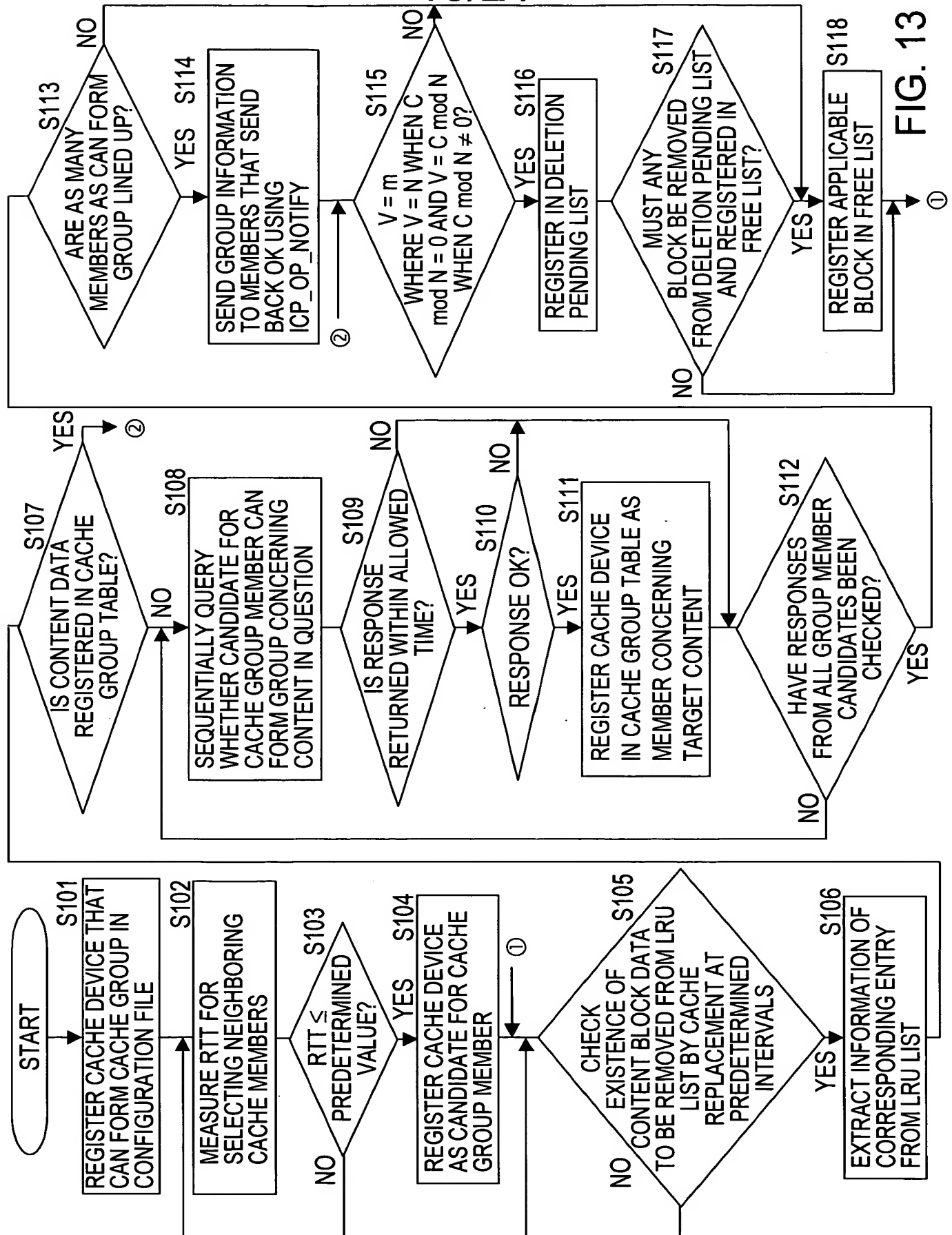


FIG. 12

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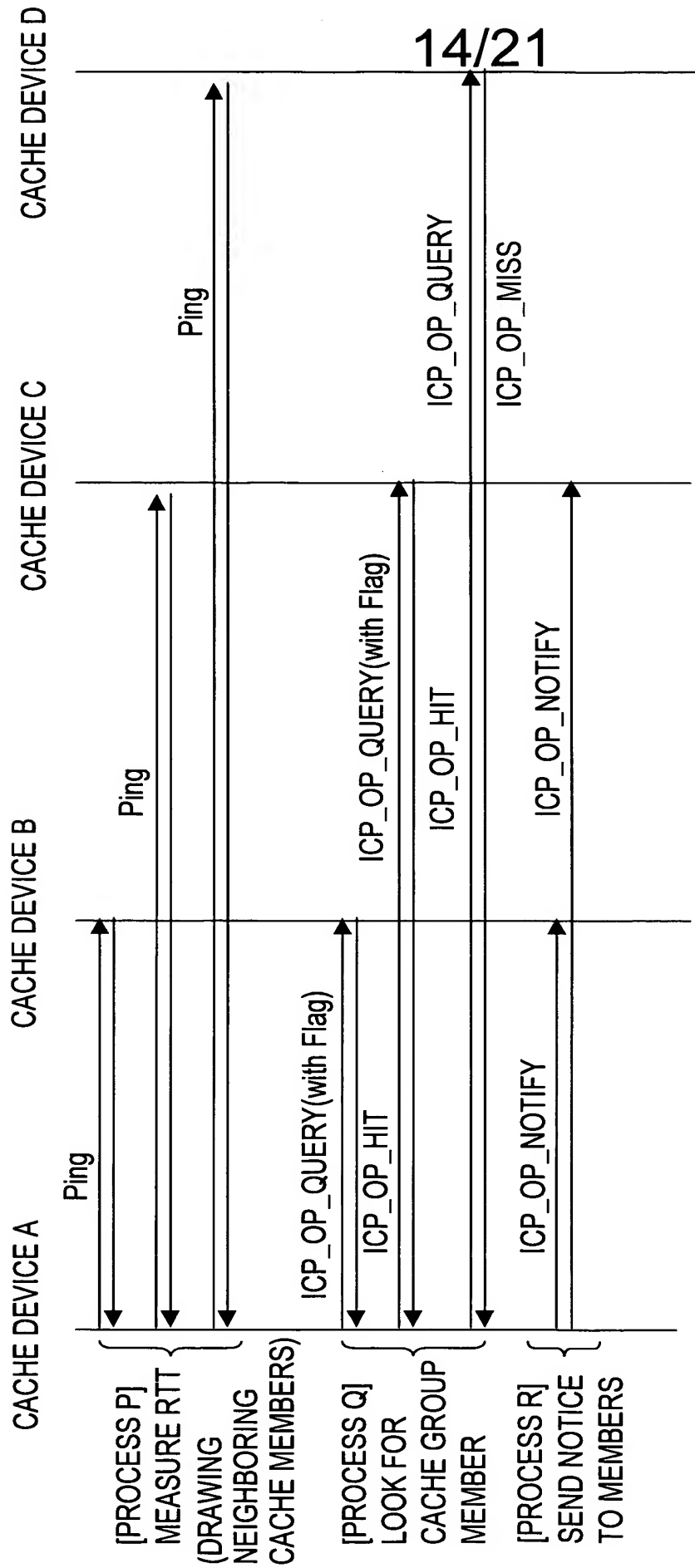


FIG. 14

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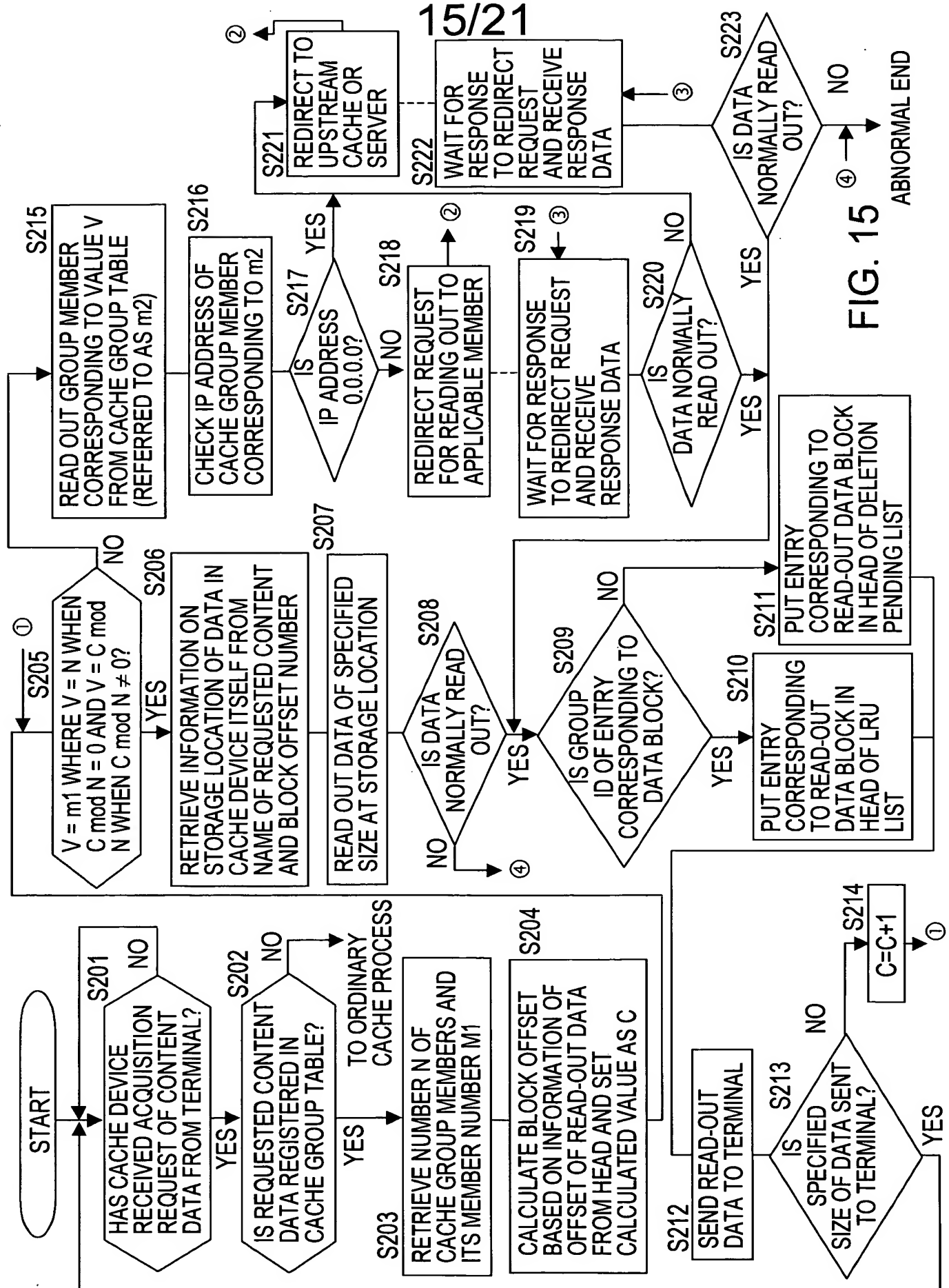
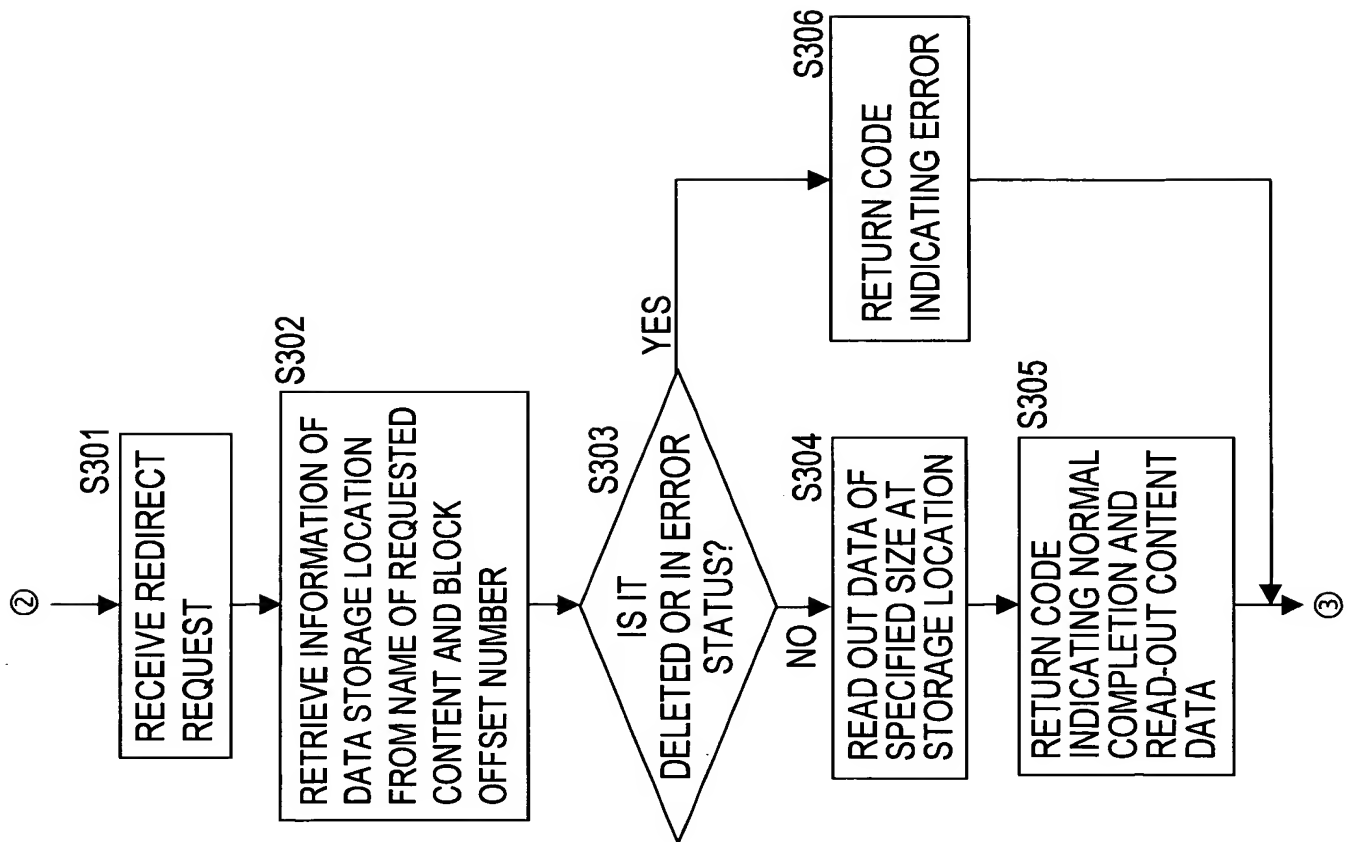


FIG. 15

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FIG. 16





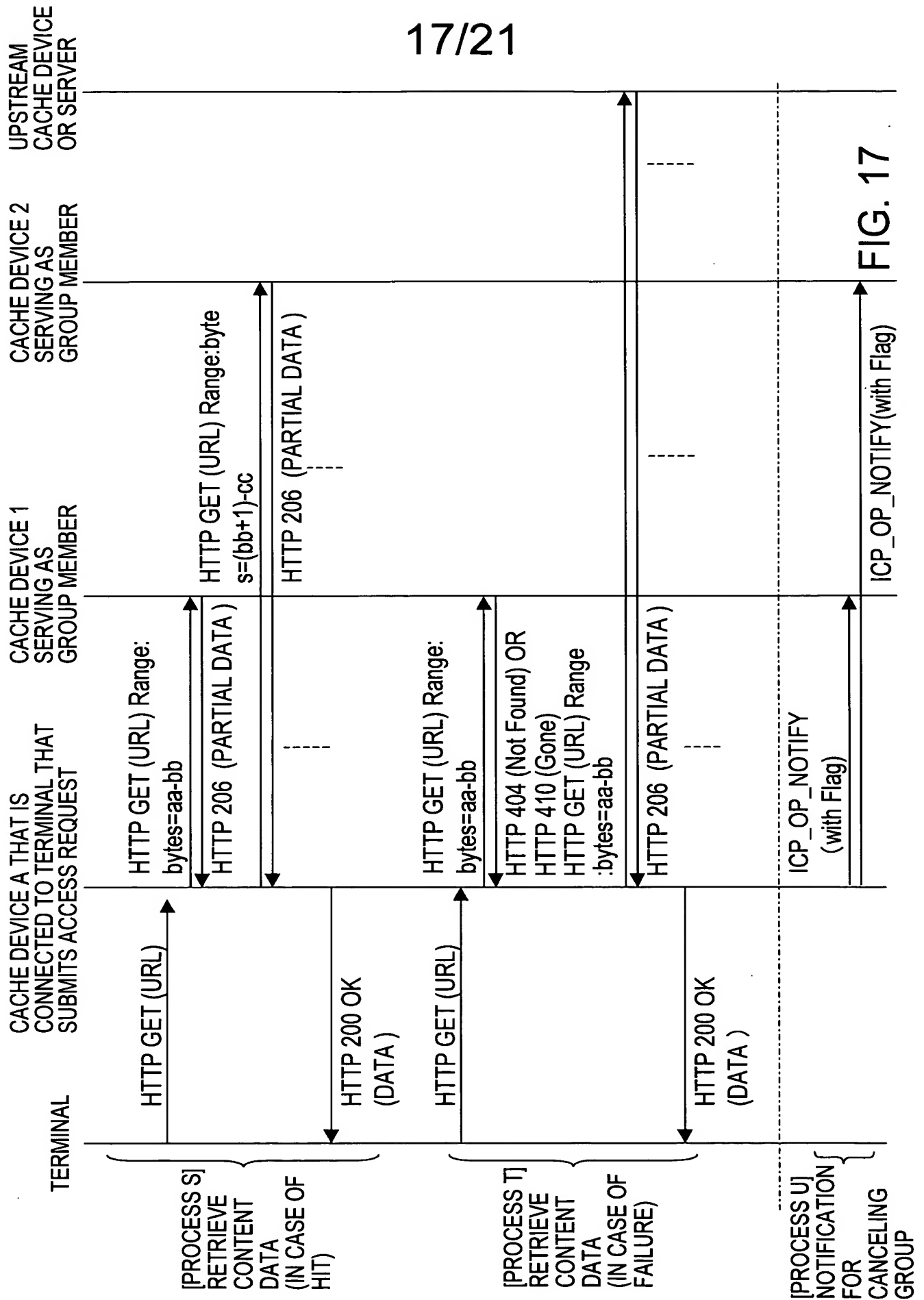


FIG. 17

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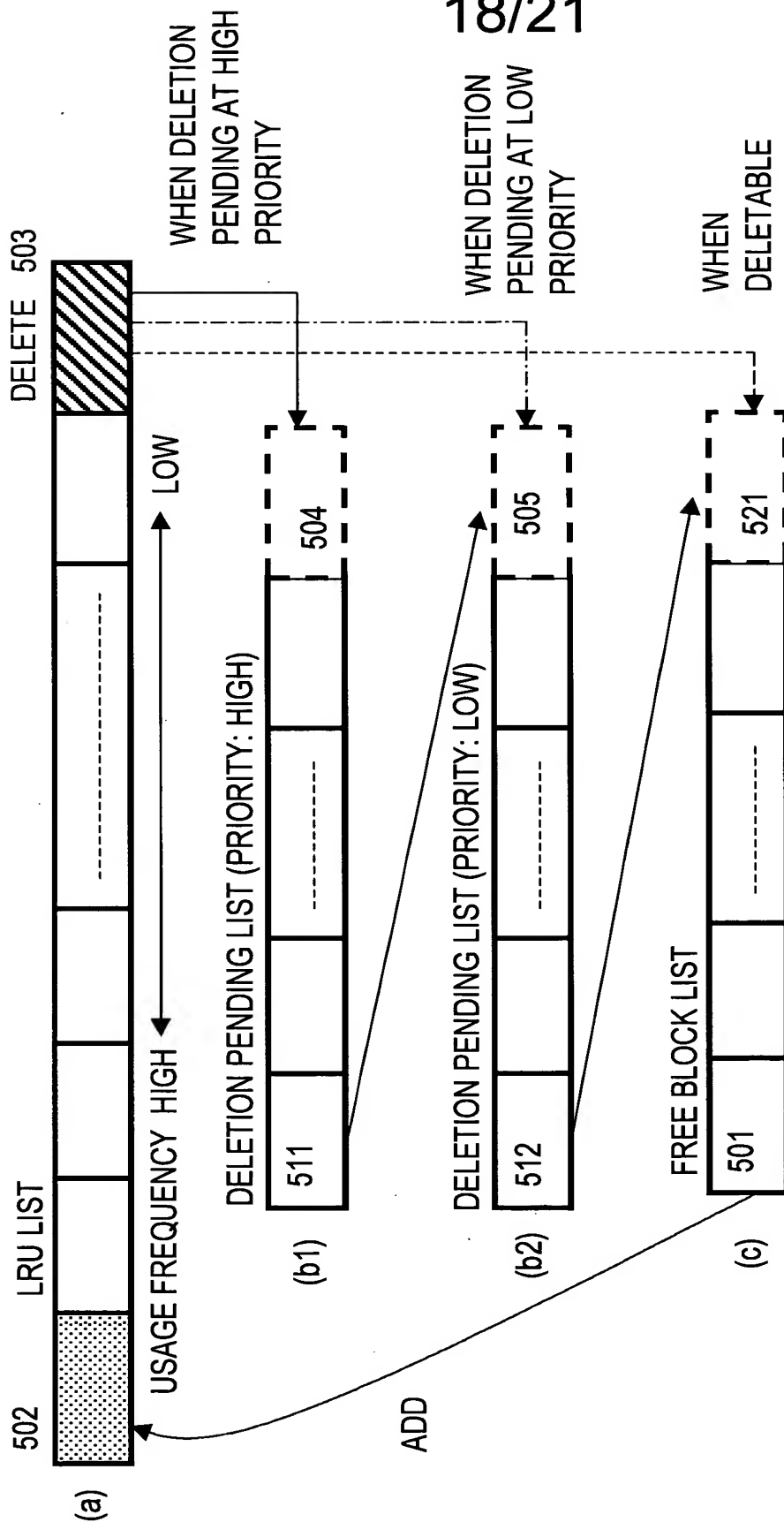


FIG. 18

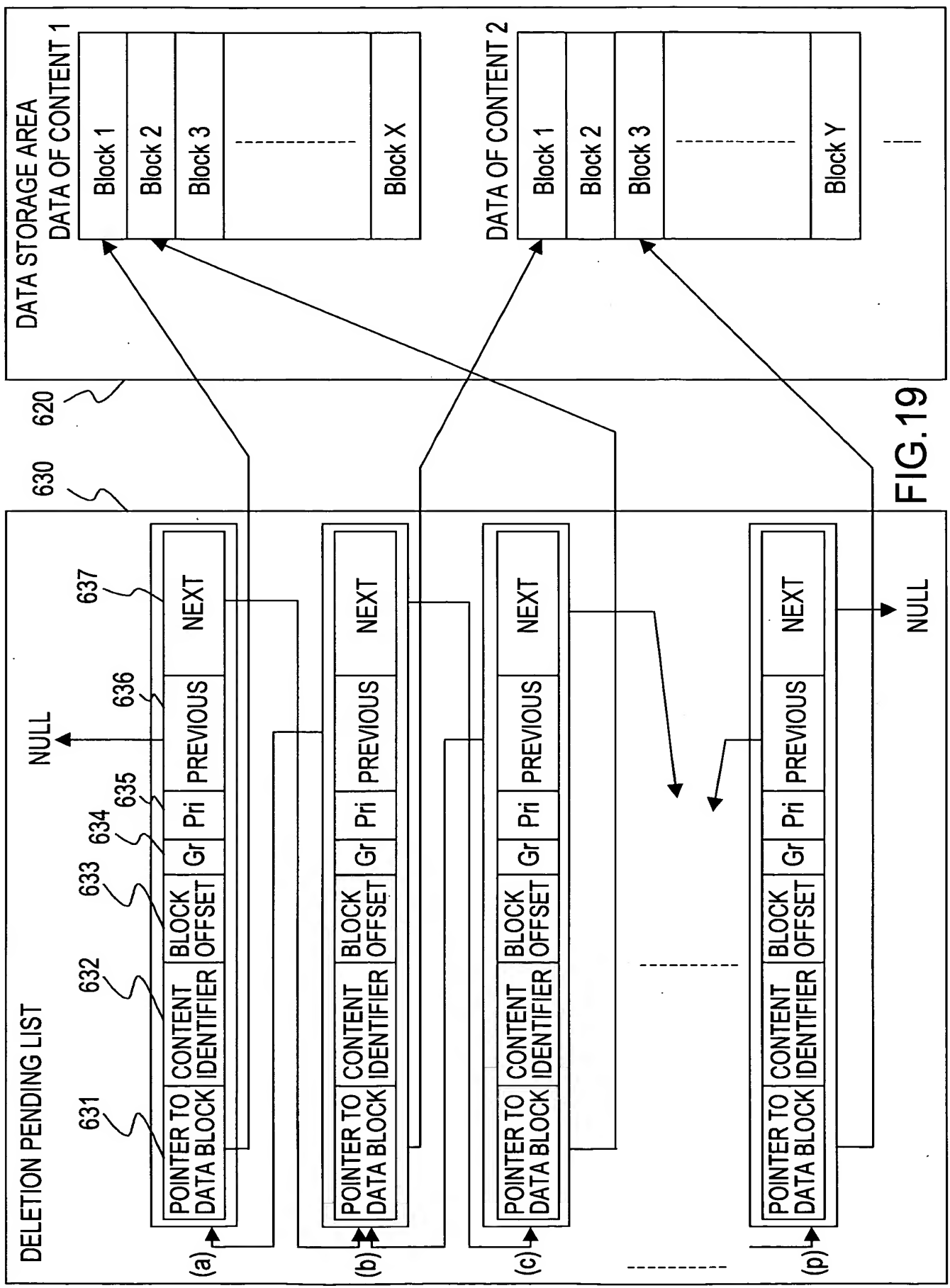
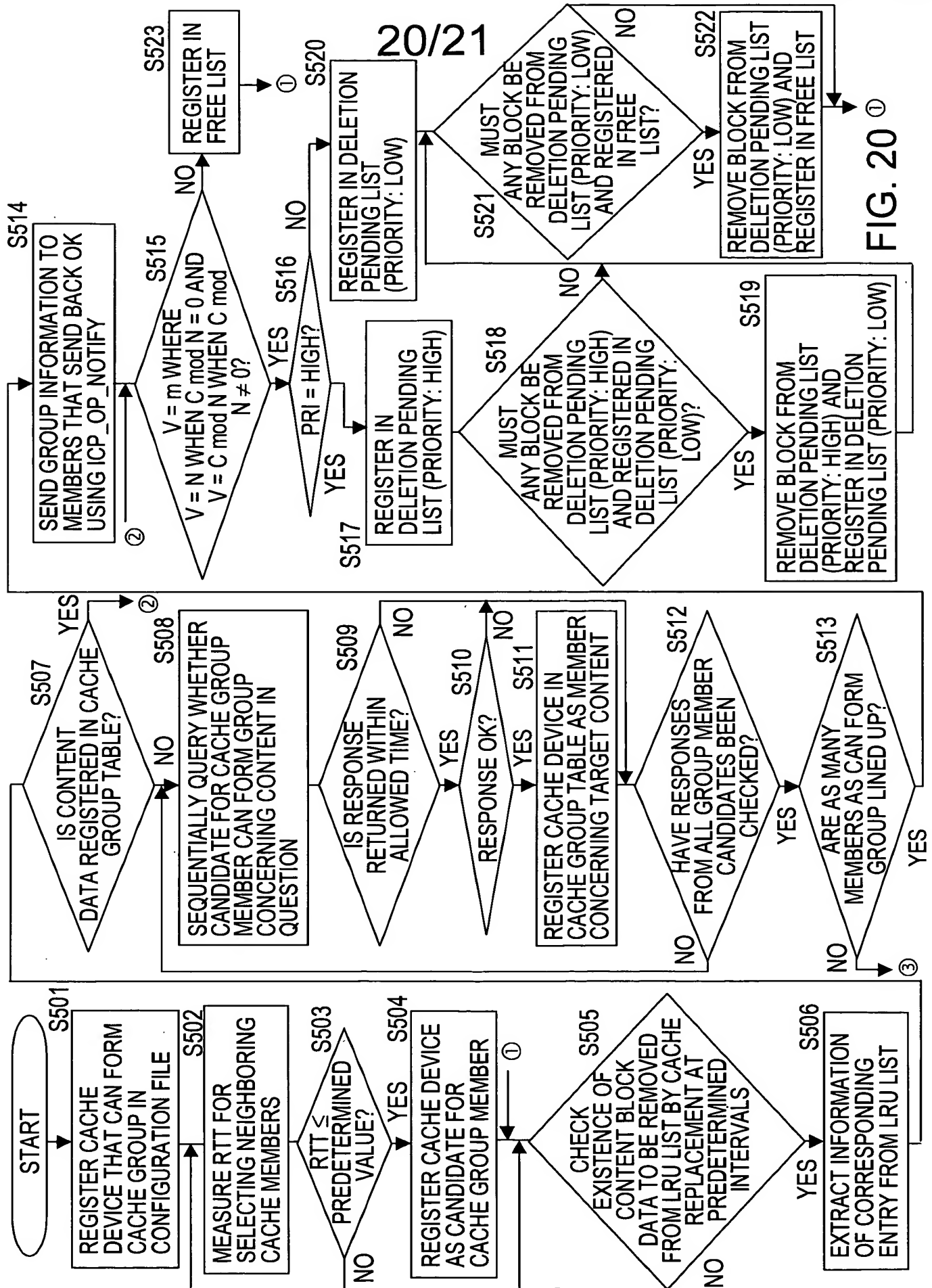


FIG.19



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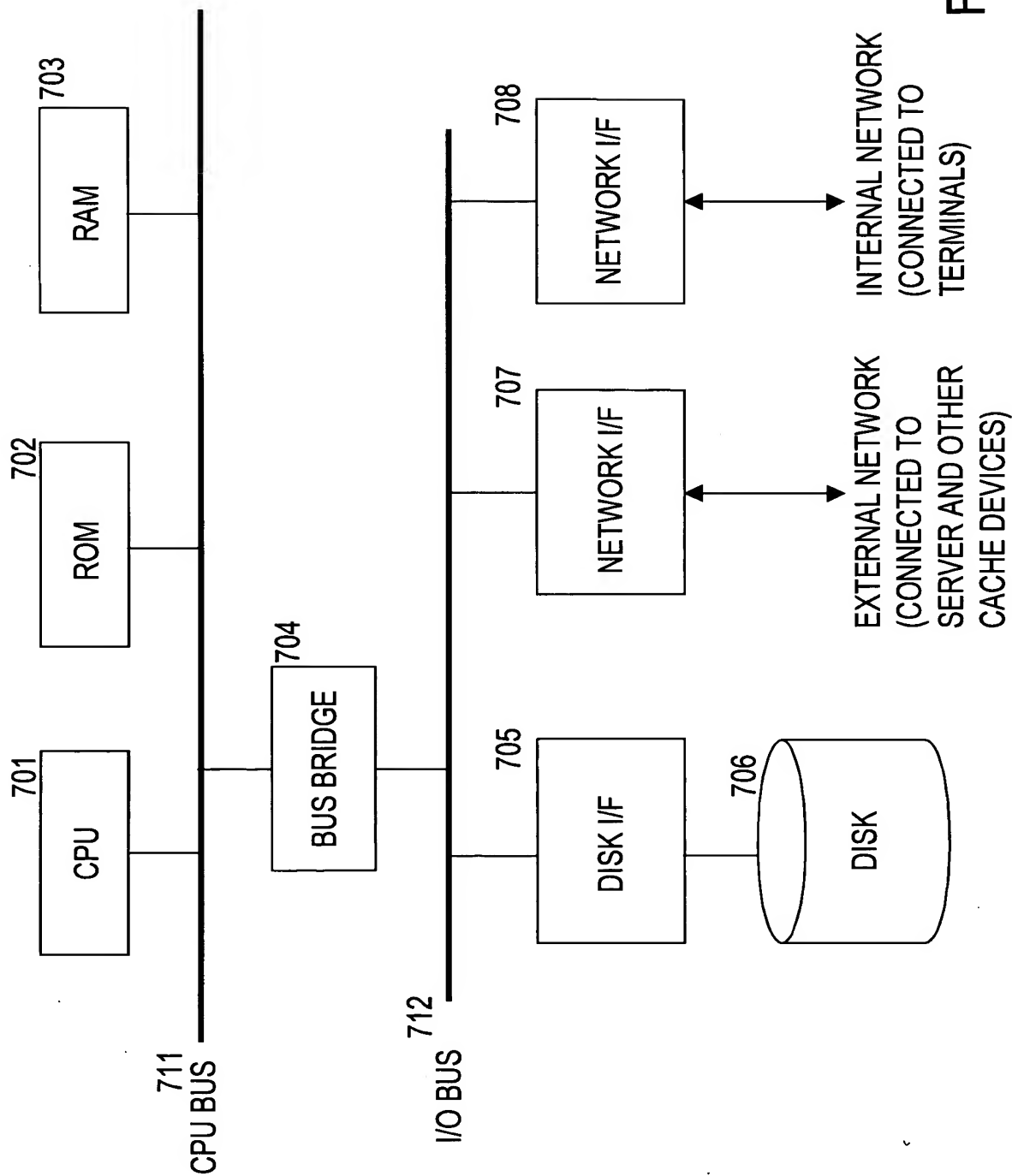


FIG. 21